General

Guideline Title

American Academy of Orthopaedic Surgeons appropriate use criteria for optimizing the management of full-thickness rotator cuff tears.

Bibliographic Source(s)

American Academy of Orthopaedic Surgeons (AAOS). American Academy of Orthopaedic Surgeons appropriate use criteria for optimizing the management of full-thickness rotator cuff tears. Rosemont (IL): American Academy of Orthopaedic Surgeons (AAOS); 2013 Sep 20. 82 p. [9 references]

Guideline Status

This is the current release of the guideline.

Regulatory Alert

FDA Warning/Regulatory Alert

Note from the National Guideline Clearinghouse: This guideline references a drug(s) for which important revised regulatory and/or warning information has been released.

- August 31, 2016 – Opioid pain and cough medicines combined with benzodiazepines : A U.S. Food and Drug Administration (FDA) review has found that the growing combined used of opioid medicines with benzodiazepines or other drugs that depress the central nervous system (CNS) has resulted in serious side effects, including slowed or difficult breathing and deaths. FDA is adding Boxed Warnings to the drug labeling of prescription opioid pain and prescription opioid cough medicines and benzodiazepines.
- March 22, 2016 – Opioid pain medicines : The U.S. Food and Drug Administration (FDA) is warning about several safety issues with the entire class of opioid pain medicines. These safety risks are potentially harmful interactions with numerous other medications, problems with the adrenal glands, and decreased sex hormone levels. They are requiring changes to the labels of all opioid drugs to warn about these risks.

Recommendations

Major Recommendations

Patient Population and Assumptions of the Writing Panel

The purpose of this Appropriate Use Criteria (AUC) is to report on the optimal management of symptomatic full-thickness rotator cuff tears based

on expert experience and review of the literature as an appropriate use document for American Academy of Orthopaedic Surgeons (AAOS) members, assuming the patient has sufficient pain and/or dysfunction that they are seeking out the opinion of an orthopaedist and that the treating clinician is trained and capable of effectively performing the recommended treatment(s). The target patient group is assumed to have a clinical history (i.e., anterolateral shoulder pain not radiating past the elbow), physical examination (e.g., external rotation lag, positive drop arm test, and/or pain relief but sustained weakness after impingement test), and imaging findings (i.e., magnetic resonance imaging [MRI]) all consistent with a full-thickness rotator cuff tear. This exercise implies that an MRI has been obtained for treatment decision purposes. This does not imply that this document recommends an MRI be obtained in all scenarios. Several caveats and confounding variables have to be addressed before the physician can start applying these criteria to treat their patients. Rotator cuff tears can present in an acute or chronic fashion.

As one of the patient indication variables is "Response to previous treatment," it is the assumption of the voting panel that each patient has already been evaluated by a medical practitioner and undergone some form of initial conservative management.

The clinician has to take a full history, as well as conduct a thorough physical exam. This cannot be substituted for a complete history and thorough physical examination for patients with an imaging study documenting a full-thickness rotator cuff tear. Pain patterns that do not fit or are suggestive of other pathologies need to be assessed, i.e., radiculopathy. The physical exam should include assessment of potential alternative pathologies that may have a similar clinical presentation to rotator cuff tears, such as limitation in active motion, patients with frozen shoulder/shoulder stiffness, and concomitant cuff tears, compose a distinct clinical entity.

It is assumed that the patient scenarios are a snapshot in time. The patient scenarios do not account for changes in symptoms and other findings that may occur during follow-up. That is, a patient presenting initially in one scenario may subsequently present in a different scenario on follow-up. Furthermore, the AUC voting panel acknowledges that each AUC scenario is a generalization based only on a handful of prognostic factors and only these factors were considered when voting was conducted. Additional factors that were not considered, such as patient age or participation in professional sports, might drastically alter the vote for any specific patient scenario.

For surgical candidates with any other concomitant diagnoses, such as biceps tendonitis, labral fraying/tearing, and osteophytes at the inferior surface of the acromioclavicular (AC) joint which may act as pain generators or contribute to mechanical tendon attrition, these appropriate use criteria may still be applicable if the candidate meets both of the following conditions:

1. If after the history, exam, and imaging review the clinician determines that the rotator cuff tear accounts for the majority of the symptoms
2. Treatment of this secondary pathology is necessary as part of the surgical procedure to treat potential pain generators and relieve pathology that may deteriorate the surgical outcome.

Ultimately, the treating physician needs to a) tailor the treatment to the severity of the symptoms as described by the patient and appreciated through the history and b) use their expertise, knowledge, and experience to treat the patient with the optimal management (considering patient's expectations) for that particular patient after discussing the options with the patient.

Results of Appropriateness Ratings

The appropriate use criteria tables (see pages 28-45 in the original guideline document) contain the final appropriateness ratings assigned by the sixteen members of the voting panel. Combinations of patient indications are found under the column titled "Patient Characteristics." The appropriate use criteria for each patient scenario can be found under each of the five treatment columns. These criteria are formatted by appropriateness labels (i.e., "R"=Rarely Appropriate, "M"=May Be Appropriate, and "A"=Appropriate), median score (in parentheses), and + or - indicating agreement or disagreement amongst the voting panel, respectively.

Clinical Algorithm(s)

None provided

Scope

Disease/Condition(s)

Full-thickness rotator cuff tears

Note: This guideline does not address the following conditions:

Rotator cuff re-tears/history of previous rotator cuff repair
Partial-thickness tears or rotator cuff tendonitis/impingement syndrome/rotator cuff bursitis
Secondary diagnosis that the surgeon determines is more likely to be the relevant pathology creating pain such as: glenohumeral arthrosis; calcific tendinitis; plexopathy, radiculopathy or muscle weakness from suprascapular nerve (SSN) compression; isolated clinically symptomatic acromioclavicular (AC) joint arthritis

Guideline Category

Evaluation

Management

Treatment

Clinical Specialty

Orthopedic Surgery

Physical Medicine and Rehabilitation

Sports Medicine

Intended Users

Physical Therapists

Physicians

Guideline Objective(s)

- To help determine the appropriateness of clinical practice guideline recommendations for the heterogeneous patient population routinely seen in practice
- To report on the optimal management of symptomatic full-thickness rotator cuff tears based on expert experience and review of the literature as an appropriate use document for American Academy of Orthopaedic Surgeons (AAOS) members, assuming the patient has sufficient pain and/or dysfunction that they are seeking out the opinion of an orthopaedist and that the treating clinician is trained and capable of effectively performing the recommended treatment(s)

Target Population

Patients with a clinical history (i.e., anterolateral shoulder pain not radiating past the elbow), physical examination (e.g., external rotation lag, positive drop arm test, and/or pain relief but sustained weakness after impingement test), and imaging findings (i.e., magnetic resonance imaging [MRI]) all consistent with a full-thickness rotator cuff tear

Interventions and Practices Considered

1. Patient history and physical examination
2. Non-operative management:
    - Medications (nonsteroidal anti-inflammatory drugs [NSAIDS], Ultram, light narcotics for short time periods, steroid dose pack), and corticosteroid injections
    - Patient education related to control of symptoms, activity modification, performance of home exercise program, and prognosis
    - Manual therapy treatments to improve shoulder passive range of motion (ROM) restrictions cervical and thoracic mobility
    - Supervised exercises to improve shoulder girdle flexibility, rotator cuff strength, rotator cuff to deltoid balance, and scapular control

    - Functional training to improve participation in work, sports, and recreational activities
    - Passive modalities such as therapeutic ultrasound, transcutaneous electrical nerve stimulation (TENS), iontophoresis (not offered as first line treatment)
3. Partial repair and/or debridement (including subacromial debridement, debridement of acromioclavicular [AC] joint spurs, debridement of the cuff edges, glenohumeral joint debridement, and biceps tenotomy or tenodesis [suprascapular nerve decompression is an option for debridement and repair])
4. Open or arthroscopic rotator cuff repair (single or double row/transosseous/suture bridge/transosseous equivalent, anatomic or medialized repair)
5. Reconstruction (an augmented repair with a patch or tendon transfer)
6. Arthroplasty (including hemiarthroplasty, reverse shoulder arthroplasty, or other arthroplasty options)

Note: See the original guideline document for appropriateness ratings for each intervention.

Major Outcomes Considered

- Pain relief
- Functional status
- Treatment failure rate
- Patient satisfaction

Methodology

Methods Used to Collect/Select the Evidence

Searches of Electronic Databases

Description of Methods Used to Collect/Select the Evidence

Literature Review

Concurrent with the development of the criteria by the writing panel, the American Academy of Orthopaedic Surgeons (AAOS) Appropriate Use Criteria Unit undertakes a literature review based on the results of the clinical practice guideline related to the selected topic. This literature review considers the relevant articles from the clinical practice guideline. The literature review informs the decisions relevant to the indications identified by the writing panel when articles are available and necessary. The literature review also considers lower quality evidence when the best available evidence (i.e., the evidence used in AAOS Clinical Practice Guidelines) does not contain information relevant to the clinical scenarios.

AAOS staff "maps" the findings of the literature review to the criteria developed by the writing panel by referencing the relevant article(s) that the literature review identifies (or figures/tables developed by AAOS staff based on the relevant article[s]).

Both the writing panel and the review panel can suggest additional articles for consideration in the literature review or suggest removal of an article that does not correctly address the clinical scenario it is associated with. The addition or deletion of articles to/from the literature review is at the discretion of the entire writing panel (all panel members must agree that the article is relevant/not relevant to the clinical scenario). No article previously included in an AAOS Clinical Practice Guideline related to the selected topic can be removed from the literature review.

Number of Source Documents

- Searched literature from 1966 to October 1, 2008: Final guideline included 75 articles
- Reviewed included/excluded literature from 2010 clinical practice guideline: Appropriate Use Criteria (AUC) included an additional 31 low quality articles excluded from clinical practice guideline
- Updated guideline search from October 1, 2008 to February 1, 2013: Updated search yielded 149 additional articles relevant for this AUC
- Aggregated search totals for included literature published between 1966 to February 1, 2013: 255 articles were included in the AUC literature review

Methods Used to Assess the Quality and Strength of the Evidence

Weighting According to a Rating Scheme (Scheme Given)

Rating Scheme for the Strength of the Evidence

Levels of Evidence for Primary Research Question[1]

	Types of Studies			
	Therapeutic Studies Investigating the results of treatment	Prognostic Studies Investigating the effects of a patient characteristic on the outcome of disease	Diagnostic Studies Investigating a diagnostic test	Economic and Decision Analyses Developing an economic or decision model
Level I	• High quality randomized trial with statistically significant difference or no statistically significant difference but narrow confidence intervals • Systematic review[2] of Level I randomized controlled trials (RCTs) (and study results were homogenous[3])	• High quality prospective study[4] (all patients were enrolled at the same point in their disease with ≥80% follow-up of enrolled patients) • Systematic review[2] of Level I studies	• Testing of previously developed diagnostic criteria on consecutive patients (with universally applied reference "gold" standard) • Systematic review[2] of Level I studies	• Sensible costs and alternatives; values obtained from many studies; with multiway sensitivity analyses • Systematic review[2] of Level I studies
Level II	• Lesser quality RCT (e.g., <80% follow-up, no blinding, or improper randomization) • Prospective[4] comparative study[5] • Systematic review[2] of Level II studies or Level I studies with inconsistent results	• Retrospective study[6] • Untreated controls from an RCT • Lesser quality prospective study (e.g., patients enrolled at different points in their disease or <80% follow-up) • Systematic review[2] of Level II studies	• Development of diagnostic criteria on consecutive patients (with universally applied reference "gold" standard) • Systematic review[2] of Level II studies	• Sensible costs and alternatives; values obtained from limited studies; with multiway sensitivity analyses • Systematic review[2] of Level II studies
Level III	• Case control study[7] • Retrospective[6]comparative study[5] • Systematic review[2] of Level III studies	• Case control study[7]	• Study of nonconsecutive patients; without consistently applied reference "gold" standard • Systematic review[2] of Level III studies	• Analyses based on limited alternatives and costs; and poor estimates • Systematic review[2] of Level III studies
Level IV	• Case series[8]	• Case series	• Case-control study • Poor reference standard	• Analyses with no sensitivity analyses
Level V	Expert opinion	Expert opinion	Expert opinion	Expert opinion

[1]A complete assessment of quality of individual studies requires critical appraisal of all aspects of the study design.

[2]A combination of results from two or more prior studies.

[3]Studies provided consistent results.

[4]Study was started before the first patient enrolled.

[5]Patients treated one way (e.g., cemented hip arthroplasty) compared with a group of patients treated in another way (e.g., uncemented hip arthroplasty) at the same institution.

[6]The study was started after the first patient enrolled.

[7]Patients identified for the study based on their outcome, called "cases"; e.g., failed total hip arthroplasty, are compared to those who did not have outcome, called "controls"; e.g., successful total hip arthroplasty.

[8]Patients treated one way with no comparison group of patients treated in another way.

Methods Used to Analyze the Evidence

Systematic Review with Evidence Tables

Description of the Methods Used to Analyze the Evidence

The best available scientific evidence is synthesized with collective expert opinion on topics where gold standard randomized clinical trials are not available or are inadequately detailed for identifying distinct patient types. When there is evidence corroborated by consensus that expected benefits substantially outweigh potential risks, exclusive of cost, a procedure is determined to be appropriate. The American Academy of Orthopaedic Surgeons (AAOS) uses the Research and Development/University of California, Los Angeles (RAND/UCLA) Appropriateness Method (RAM). The process includes these steps: reviewing the results of the evidence analysis, compiling a list of clinical vignettes, and having an expert panel comprised of representatives from multiple medical specialties to determine the appropriateness of each of the clinical indications for treatment as "Appropriate," "May be Appropriate," or "Rarely Appropriate."

Methods Used to Formulate the Recommendations

Expert Consensus (Delphi)

Expert Consensus (Nominal Group Technique)

Description of Methods Used to Formulate the Recommendations

Developing Criteria

Members of the Optimizing the Management of Full-Thickness Rotator Cuff Tears Appropriate Use Criteria (AUC) writing panel, who are orthopaedic specialists in management of rotator cuff tears, developed clinical scenarios using the following guiding principles:

- Include a broad spectrum of patients that may be eligible for management of full-thickness rotator cuff tears *[comprehensive]*
- Classify patients into a unique scenario *[mutually exclusive]*
- Consistently classify similar patients into the same scenario *[reliable, valid indicators]*

The writing panel developed the scenarios by categorizing patients in terms of indications evident during the clinical decision making process (see Figure 1 in the original guideline document). These scenarios relied upon definitions and general assumptions, mutually agreed upon by the writing panel during the development of the scenarios. These definitions and assumptions were necessary to provide consistency in the interpretation of the clinical scenarios among experts voting on the scenarios and readers using the final criteria.

Formulating Indications and Scenarios

The AUC writing panel began the development of the scenarios by identifying clinical indications typical of patients commonly presenting full-thickness rotator cuff tears in clinical practice. Indications are most often parameters observable by the clinician, including symptoms or results of diagnostic tests. Additionally, "human factor" (e.g., activity level) or demographic variables can be considered.

Indications identified in clinical trials (derived from patient selection criteria) included in the American Academy of Orthopaedic Surgeons (AAOS) Clinical Practice Guidelines served as a starting point for the writing panel and ensured that these Appropriate Use Criteria referred to the evidence base for the Management of Full-Thickness Rotator Cuff Tears AUC. The writing panel considered this initial list and other indications based on

their clinical expertise and selected the most clinically relevant indications. The writing panel then defined distinct classes for each indication in order to stratify/categorize the indication.

The writing panel organized these indications into a matrix of clinical scenarios (see Appendix B in the original guideline document) that addressed all combinations of the classifications. The writing panel was given the opportunity to remove any scenarios that rarely occur in clinical practice, and they agreed to remove the patient scenarios that contain C1 or C2 category tears *and* G 3-4 Atrophy. All participants agreed that the removal of these scenarios due to their rarity in daily clinical practice was appropriate. No further suggestions concerning scenario deletions were made by the writing panel. The major clinical decision making indications chosen by the writing panel divided the matrix of clinical scenarios into chapters, as follows: Symptom severity, American Society of Anesthesiologists (ASA) status, identifiable factors that negatively affect healing, identifiable factors that negatively affect outcome, tear size and retraction (based on Snyder Classification), atrophy/fatty infiltration, and previous treatment as the major clinical decision making indications for the chapters presented (see Table 1 in the original guideline document).

Creating Definitions and Assumptions

The Optimizing the Management of Full-Thickness Rotator Cuff Tears AUC writing panel constructed concise and explicit definitions for the indications and classifications. This standardization helped ensure the way that the writing panel defined symptom severity, ASA status, identifiable factors that negatively affect healing, identifiable factors that negatively affect outcome, tear size and retraction (based on Snyder Classification), atrophy/fatty infiltration, and previous treatment was consistent among those reading the clinical scenario matrix or the final criteria. Definitions drew explicit boundaries when possible and were based on standard medical practice or existing literature.

Additionally, the writing panel formulated a list of general assumptions in order to provide more consistent interpretations of a scenario. These assumptions differed from definitions in that they identified circumstances that exist outside of the control of the clinical decision making process.

Assumptions also addressed the use of existing published literature regarding the effectiveness of treatment and/or the procedural skill level of physicians. Additionally, assumptions highlighted intrinsic methods described in this document such as the role of cost considerations in rating appropriateness or the validity of the definition of appropriateness. The main goal of assumptions was to focus scenarios so that they apply to the average patient presenting to an average physician at an average facility.

The definitions and assumptions provided all readers with a common starting point in interpreting the clinical scenarios. This list of definitions and assumptions accompanied the matrix of clinical scenarios in all stages of the development of this AUC and appears in the "Patient Population and Assumptions of the Writing Panel" section of the original guideline document (see also the "Major Recommendations" field).

Voting Panel Modifications to Writing Panel Materials

The voting panel opted to make several amendments/additions to the original AUC materials. See the "Methods" section in the original guideline document for details of voting panel modifications.

Literature Review

Concurrent with the writing panel developing the criteria, the AAOS Appropriate Use Criteria Unit undertook a literature review based on the results of the AAOS clinical practice guideline and all literature published after the release of the clinical practice guideline related to the management of full-thickness rotator cuff tears. This literature review informed the decisions relevant to the indications identified by the writing panel when they were available and necessary. The literature review also considered lower quality evidence when the best available evidence (i.e., randomized control trials) did not contain information relevant to the clinical scenarios. The full results of the literature review can be reviewed by visiting the AUC web-based application at www.aaos.org/aucapp .

Reviewing Scenarios

After the writing panel developed the scenarios, the Optimizing the Management of Full-Thickness Rotator Cuff Tears AUC review panel reviewed the proposed chapters in order to ensure that they were representative of patients and scenarios clinicians are likely to encounter. The review panel was comprised of both orthopaedic surgeons who routinely perform treatments for full-thickness rotator cuff tears and other specialties that may refer patients with full-thickness rotator cuff tears to a specialist. No member of this panel participated in the writing panel's initial development of the scenarios or participated in the appropriateness rating of the scenarios.

Review panel members considered the lists of scenarios, definitions, assumptions, and the literature review associated with each scenario. Each independent reviewer suggested potential modifications to the content or structure of the lists and literature review. The writing panel provided final determination of modifications to the indications, scenarios, assumptions, and literature review would be included in the materials sent to the voting panel.

Determining Appropriateness

Optimizing the Management of Full-Thickness Rotator Cuff Tears AUC Voting Panel

A multidisciplinary panel of clinicians assembled to determine the appropriateness of treatments for full-thickness rotator cuff tears. This group consisted of approximately 50% specialists and 50% generalists. Two non-voting moderators who are orthopaedic surgeons but are not specialists in management of full-thickness rotator cuff tears facilitated the voting panel. The moderators were familiar with the methods and procedures of AAOS Appropriate Use Criteria and led the panel (as non-voters) in discussions. Additionally, no member of the voting panel was involved in the development (writing panel) or independent review (review panel) of the scenarios.

The voting panel used a modified Delphi procedure to determine appropriateness ratings. The voting panel participated in two rounds of voting while considering evidence-based information provided in the literature review. While cost is often a relevant consideration, panelists focused their appropriateness ratings on the effectiveness of treatment for full-thickness rotator cuff tears.

Rating Appropriateness

When rating the appropriateness of a scenario, the voting panel considered the following definition:

"An appropriate treatment for full-thickness rotator cuff tears is one for which the treatment is generally acceptable, is a reasonable approach for the indication, and is likely to improve the patient's health outcomes or survival."

They then rated each scenario using their best clinical judgment, taking into consideration the available evidence, for an average patient presenting to an average physician at an average facility as follows:

Table. Appropriateness Ratings

Rating	Explanation
7-9	Appropriate: Appropriate for the indication provided, meaning treatment is generally acceptable and is a reasonable approach for the indication and is likely to improve the patient's health outcomes or survival.
4-6	May Be Appropriate: Uncertain for the indication provided, meaning treatment may be acceptable and may be a reasonable approach for the indication, but with uncertainty implying that more research and/or patient information is needed to further classify the indication.
1-3	Rarely Appropriate: Rarely an appropriate option for management of patients in this population due to the lack of a clear benefit/risk advantage; rarely an effective option for individual care plans; exceptions should have documentation of the clinical reasons for proceeding with this care option (i.e., procedure is not generally acceptable and is not generally reasonable for the indication).

Each panelist uses the scale below to record their response for each scenario:

- Rarely Appropriate: 1, 2, 3
- May Be Appropriate: 4, 5, 6
- Appropriate: 7, 8, 9

Round One Voting

The first round of voting occurred after completion of the independent review of the scenarios by the review panel and approval of the final indications, scenarios, and assumptions by the writing panel. The voting panel rated the scenarios electronically using a personalized ballot created by AAOS staff using Adobe Forms. There was no interaction between panel members while completing the first round of voting. Panelists considered the following materials:

- The instructions for rating appropriateness
- The completed literature review, that is appropriately referenced when evidence is available for a scenario
- The list of indications, definitions and assumptions, to ensure consistency in the interpretation of the clinical scenarios

Round Two Voting

The second round of voting occurred during and after the in-person voting panel meeting on June 1st, 2013. Before the in-person meeting started, each panelist received a personalized document that included their first round ratings along with summarized results of the first-round ratings that

resulted in disagreement. These results indicated the frequency of ratings for a scenario for all panelists. The document contained no identifying information for other panelists' ratings. The moderator also used a document that summarized the results of the panelists' first round voting. These personalized documents served as the basis for discussions of scenarios which resulted in disagreement.

During the discussion, the voting panel members were allowed to record a new rating for any scenarios if they were persuaded to do so by the discussion or the evidence. Additionally, voting panel members were allowed to submit any amended ratings (i.e., second round ratings) until June 24th, 2013. After the final ratings were submitted, AAOS staff calculated the median values and level of agreement for all voting items, after which the voting panel examined the ratings for anomalies. There was no attempt to obtain consensus among the panel members.

Final Ratings

Using the median value of the second round ratings, AAOS determined the final levels of appropriateness. Disagreement among raters can affect the final rating. Agreement and disagreement were determined using the BIOMED definitions of Agreement and Disagreement, as reported in the Research and Development/University of California, Los Angeles (RAND/UCLA) Appropriate Method User's Manual, for a panel of 14 to 16 voting members. For this panel size, disagreement is defined as when ≥5 members' appropriateness ratings fell within the appropriate (7-9) and rarely appropriate (1-3) ranges for any scenario (i.e., ≥5 members' ratings fell between 1 to 3 and ≥5 members' ratings fell between 7 to 9 on any given scenario and its treatment). If there is still disagreement in the voting panel ratings after the second round of voting, that voting item is labeled as "5" regardless of median score. Agreement is defined as ≤4 panelists rated outside of the 3-point range containing the median.

See Tables 3 and 4 in the original guideline documents for more information on final ratings.

Rating Scheme for the Strength of the Recommendations

Not applicable

Cost Analysis

A formal cost analysis was not performed and published cost analyses were not reviewed.

Method of Guideline Validation

Internal Peer Review

Description of Method of Guideline Validation

American Academy of Orthopaedic Surgeons (AAOS) Appropriate Use Criteria (AUC) Section, the AAOS Council on Research and Quality, and the AAOS Board of Directors sequentially approved the Appropriate Use Criteria for Optimizing the Management of Full-Thickness Rotator Cuff Tears.

Evidence Supporting the Recommendations

Type of Evidence Supporting the Recommendations

These Appropriate Use Criteria (AUC) are based on the recommendations from the American Academy of Orthopaedic Surgeons (AAOS) Optimizing the Management of Rotator Cuff Problems, which resulted in four moderate strength, five limited strength, 15 inconclusive strength, and two consensus strength recommendations and was based on one level 1 study, 20 level 2 studies, eight level 3 studies, and 60 level 4 studies.

These AUC for Optimizing the Management of Full-Thickness Rotator Cuff Tears are based on a review of the available literature regarding management of full-thickness rotator cuff tears and a list of clinical scenarios (i.e., criteria) constructed and voted on by experts in orthopaedic surgery and other relevant medical fields.

Benefits/Harms of Implementing the Guideline Recommendations

Potential Benefits

Optimized management of patients with full-thickness rotator cuff tears

Potential Harms

Most treatments are associated with some known risks, especially invasive and operative treatments. Therefore, discussion of available treatments and procedures applicable to the individual patient rely on mutual communication between the patient and physician, weighing the potential risks and benefits for that patient.

Contraindications

Contraindications

Contraindications vary widely based on the treatment administered. Therefore, discussion of available treatments and procedures applicable to the individual patient rely on mutual communication between the patient and physician, weighing the potential risks and benefits for that patient.

Qualifying Statements

Qualifying Statements

- Volunteer physicians from multiple medical specialties created and categorized these Appropriate Use Criteria (AUC). These AUC are not intended to be comprehensive or a fixed protocol, as some patients may require more or less treatment or different means of diagnosis. These AUC represent patients and situations that clinicians treating or diagnosing musculoskeletal conditions are most likely to encounter. The clinician's independent medical judgment, given the individual patient's clinical circumstances, should always determine patient care and treatment.
- These criteria should not be construed as including all indications or excluding indications reasonably directed to obtaining the same results. The criteria intend to address the most common clinical scenarios facing all appropriately trained surgeons and all qualified physicians managing patients under consideration for managing full-thickness rotator cuff tears. The ultimate judgment regarding any specific criteria should address all circumstances presented by the patient and the needs and resources particular to the locality or institution. It is also important to state that these criteria were developed as guidelines and are not meant to supersede clinician expertise and experience or patient preference.
- These AUC are not meant to be used as a standalone algorithm and should be used in conjunction with clinical evaluation, clinician judgment, and patient preference. Confounding factors and concurrent diagnoses may alter the treatment.
- Some drugs or medical devices referenced or described in this document may not have been cleared by the U.S. Food and Drug Administration (FDA) or may have been cleared for a specific use only. The FDA has stated that it is the responsibility of the physician to determine the FDA clearance status of each drug or device he or she wishes to use in clinical practice.

Implementation of the Guideline

Description of Implementation Strategy

Disseminating Appropriate Use Criteria

Publication of the Appropriate Use Criteria (AUC) document is on the American Academy of Orthopaedic Surgeons (AAOS) website at

http://www.aaos.org/auc and on the web-based mobile application at www.aaos.org/aucapp. This document provides interested readers with full documentation about the development of Appropriate Use Criteria and further details of the criteria ratings.

AUCs are first announced by an Academy press release and then published on the AAOS website. AUC summaries are published in the *AAOS Now* and the *Journal of the American Academy of Orthopaedic Surgeons (JAAOS)*. In addition, the Academy's Annual Meeting showcases the AUCs on Academy Row and at Scientific Exhibits.

The dissemination efforts of AUC include web-based mobile applications, webinars, online modules for the Orthopaedic Knowledge Online website, Radio Media Tours, and Media Briefings. In addition AUCs are also promoted in relevant Continuing Medical Education (CME) courses and distributed at the AAOS Resource Center.

Other dissemination efforts outside of the AAOS include submitting AUCs to the National Guideline Clearinghouse (NGC) and to other medical specialty societies' meetings.

Implementation Tools

Mobile Device Resources

Resources

For information about availability, see the *Availability of Companion Documents* and *Patient Resources* fields below.

Institute of Medicine (IOM) National Healthcare Quality Report Categories

IOM Care Need

Getting Better

IOM Domain

Effectiveness

Identifying Information and Availability

Bibliographic Source(s)

American Academy of Orthopaedic Surgeons (AAOS). American Academy of Orthopaedic Surgeons appropriate use criteria for optimizing the management of full-thickness rotator cuff tears. Rosemont (IL): American Academy of Orthopaedic Surgeons (AAOS); 2013 Sep 20. 82 p. [9 references]

Adaptation

Not applicable: The guideline was not adapted from another source.

Date Released

2013 Sep 20

Guideline Developer(s)

American Academy of Orthopaedic Surgeons - Medical Specialty Society

Source(s) of Funding

The American Academy of Orthopaedic Surgeons exclusively funded development of these Appropriate Use Criteria. The American Academy of Orthopaedic Surgeons received no funding from outside commercial sources to support the development of these Appropriate Use Criteria.

Guideline Committee

Optimizing the Management of Full-Thickness Rotator Cuff Tears Appropriate Use Criteria (AUC) Writing Panel

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Financial Disclosures/Conflicts of Interest

In accordance with American Academy of Orthopaedic Surgeons policy, all individuals whose names appear as authors or contributors to this document filed a disclosure statement as part of the submission process. All authors provided full disclosure of potential conflicts of interest prior to participation in the development of these Appropriate Use Criteria. Disclosure information for all panel members can be found in Appendix C of the original guideline document.

Guideline Status

This is the current release of the guideline.

Guideline Availability

Electronic copies: Available from the American Academy of Orthopaedic Surgeons (AAOS) Web site.

Print copies: Available from the American Academy of Orthopaedic Surgeons, 6300 North River Road, Rosemont, IL 60018-4262. Telephone: (800) 626-6726 (800-346-AAOS); Fax: (847) 823-8125; Web site: www.aaos.org.

Availability of Companion Documents

The following are available:

- Shouldering the burden of a rotator cuff injury. Quick facts sheet. Rosemont (IL): American Academy of Orthopaedic Surgeons (AAOS). 1 p. Electronic copies: Available in Portable Document Format (PDF) from the American Academy of Orthopaedic Surgeons (AAOS) Web site.
- AUC process. Rosemont (IL): American Academy of Orthopaedic Surgeons (AAOS). 9 p. Electronic copies: Available in PDF from the AAOS Web site.

An interactive literature review used for the Appropriate Use Criteria for optimizing the management of full-thickness rotator cuff tears is available from the AAOS Web site.

A mobile app for optimizing the management of full-thickness rotator cuff tears is available from the AAOS Web site.

Patient Resources

None available

NGC Status

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